

# Frequently Asked Questions (FAQs)

## Niagara Falls Storage Site Lewiston, New York

### General Site Questions

#### **1. Where is the Niagara Falls Storage Site (NFSS)?**

The Niagara Falls Storage Site is located at 1397 Pletcher Road in the Township of Lewiston (Niagara County) in northwestern New York, about 19 miles northwest of Buffalo, 10 miles north of the City of Niagara Falls. NFSS is located on part of the former Lake Ontario Ordnance Works, a site developed for producing explosives during World War II.

#### **2. How big is it?**

The Niagara Falls Storage Site consists of 191 acres that is owned by the Federal government and located within the original 7500-acre Lake Ontario Ordnance Works boundary. The 10-acre waste containment structure that contains radioactive residues is located on the site.

#### **3. What is on the site and what is the status of the cleanup?**

In 1944, the NFSS was used by the Manhattan Engineer District for storing low-level radioactive residues and wastes from uranium ore processing conducted during the development of the atomic bomb. Until the late 1950's, additional radioactive residues and wastes were brought to the site for storage. Three buildings remain on the 191-acre site: Building 401 and two maintenance buildings. Building 401 contains some fixed, low-level radioactive contamination and may contain chemical contamination. It was remediated for asbestos contamination in 2003. Building 401 was used as the powerhouse for the TNT plant at the Lake Ontario Ordnance Works in 1943. It was only in operation for a year until TNT was in excess production. From 1953-59 and 1965-71, the building was used to manufacture Boron-10, which is not radioactive. Building 401 is currently structurally sound and has been secured to prevent trespassing. Building 403 was a fire system building that had a hose-drying tower. It was later used as a radiological laboratory. Building 403 was decontaminated as a preventative maintenance measure in 1998 and was demolished in August 2000. In 1952, drums containing high activity, low-level radioactive residues (K-65) were stored in a silo, which has since been demolished. The Department of Energy relocated the residues in the 1980's and they were placed in an engineered waste containment structure that is about 10-acres in size. The containment structure was constructed in two phases in 1986 and 1991. There are about 260,000 cubic yards of material stored at the site, of which only approximately 4,000 cubic yards are K-65 high activity residue.

#### **4. What is FUSRAP?**

FUSRAP, or the Formerly Utilized Sites Remedial Action Program, was initiated in 1974 to identify, investigate and clean up or control sites that were part of the Nation's early atomic energy program. Activities at these sites were performed in the 1940s, 1950s and 1960s by the Manhattan Engineer District (MED, between 1944-1946) or under the Atomic Energy Commission (AEC) (between 1947-1975). Both the MED and the AEC were predecessors to the U.S. Department of Energy (DOE). In 1997, Congress transferred the responsibility for the program from the DOE to the U.S. Army Corps of Engineers (USACE). The goal of FUSRAP is to clean up or contain the MED- or AEC-related radioactive material so that the sites may be released for appropriate future use and to ensure the protection of human health and the environment.

#### **4. Why was the site given the FUSRAP designation?**

The site was included in FUSRAP because historical information indicates that radioactive storage resulting from government activity occurred in this area.

#### **5. Who owns the NFSS property?**

NFSS is currently United States Government property.

## **6. How can I get more information about the NFSS?**

The U.S. Army Corps of Engineers welcomes inquiries about the NFSS. Call us toll-free at 1-800-833-6390 with your questions or to be included on the site's mailing list to receive information about site activities, release of documents for public review and comment, and/or upcoming public meetings. By mail, contact us at: U.S. Army Corps of Engineers, 1776 Niagara St., Buffalo, NY 14207-3199. Also, reports and documents in the Administrative Record File may be viewed at the Lewiston Public Library, 305 South Eighth Street, Lewiston, NY; Youngstown Free Library, 240 Lockport St., Youngstown, NY; and the Buffalo District office of the U.S. Army Corps of Engineers at 1776 Niagara St., Buffalo, NY.

## **7. How is the investigation of NFSS funded?**

Work at the Niagara Falls Storage Site is being funded through the Formerly Utilized Sites Remedial Action Program (FUSRAP). The work at the former Lake Ontario Ordnance Works has a different funding source, the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS).

## **8. What is the responsibility of the Corps at the Niagara Falls Storage Site?**

As mandated by the United States Congress, the U.S. Army Corps of Engineers is using the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process to thoroughly investigate the extent of both chemical and radiological contamination at the NFSS. Throughout this process, we will work with regulatory agencies, stakeholders and the public to propose, develop and implement plans to achieve a cleanup that ensures protection of human health and safety and the environment, and restores the site for appropriate future use.

## **9. I appreciate the thoroughness and the caution that the Corps is taking, but it has been 50 years.**

The U.S. Army Corps of Engineers has been investigating this site since October 1997, and we have accomplished much since then, as detailed in our most current fact sheet

## **10. When will the site be cleaned up?**

We anticipate that action on an approved cleanup alternative could begin in approximately 2008, with completion anticipated in approximately 2011.

# **History/Sampling Questions**

## **1. What was the role of the U.S. Department of Energy (DOE) at the site?**

The Department of Energy operated the Niagara Falls Storage Site before 1997, at which time the Corps of Engineers was given responsibility for FUSRAP remediation. The DOE constructed the waste containment structure in the 1980s and installed an interim cap over it that contains three feet of compacted clay, topped by one foot of fill, and 6 inches of topsoil. The thickness of the cap was calculated based on the percolation rate of radon, such that by the time radon percolates through the cap it is harmless. DOE proposed a long-term cap as a final remedy. USEPA objected to the long-term cap, and the National Academy of Science was tasked to do a study. The National Academy of Science Report was prepared in 1995 to address the safety of the high activity residues at the site. The report emphasized that the present (interim) cap is considered safe for 25-50 years (i.e. expectancy for 25-year life is 2011). The Corps is conducting an ongoing remedial investigation that will evaluate both radioactive wastes and chemical contamination onsite.

## **2. What process is the Corps using to evaluate the site?**

The Corps of Engineers follows the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to evaluate the NFSS. This process involves several steps, such as a Remedial Investigation / Feasibility Study (RI/FS) phase and development of a Proposed Plan and Record of Decision before doing site cleanup. The remedial investigation will involve: identifying on-site contaminants, determining the extent of contamination, determining potential risk to people and the environment, and determining how long chemicals will persist in the environment and where they may move within the environment. The feasibility study will identify possible technologies for cleaning up the site and evaluate each technology for: protection of human health, compliance with regulations, long and short-term effectiveness, reductions of

toxicity/mobility, cost, and acceptance by the state and the public. The proposed final remedy is specified in the proposed plan. The proposed plan is then open for public review and comment. The tasks needed at the site include: performing the RI/FS, remediating the Waste Containment Structure, cleaning up the remaining surface soil that is contaminated (radiological), determining whether there is on-site chemical contamination, and if so, cleaning up, decontaminating and demolishing contaminated buildings. The Corps has many issues to address and acknowledges that experts disagree about removal vs. in-place management of the high activity K-65 residues. The Corps has created a team that has examined the issues, held several meetings with the public and has prepared and awarded the scope of work for the Remedial Investigation and portions of the Feasibility Study. The Remedial Investigation is nearly complete and building 403 has been decontaminated and demolished. The site will continue to be maintained and monitored and findings will continue to be reported.

When the Corps studies are complete, we will know if any landfills can take the material, if disposal without treatment is possible, if chemical contamination exists on site, if surrounding landfills impact the subsurface and if chemical surveillance parameters and test frequency must be expanded. We will also know if surface soils must be remediated, if residues can be recycled and how quickly remediation must be started based on the safety and effective life of the current cap. The current NFSS schedule includes completing the Remedial Investigation by April 2004. The Feasibility Study began in April 2001 and will be completed by December 2004. Dates for preparation of the Proposed Plan and the Record of Decision will be contingent upon RI/FS findings.

### **3. What sorts of radionuclides are on-site?**

Although we are unable to breach the cap for safety reasons, historical records indicate that thorium and radium (which generates radon) are stored within the cell. The three-foot deep clay cap retards radon percolation until the radon has disintegrated, and periodic tests on the surface indicate that it is below background.

### **4. How about cesium or plutonium?**

We have found cesium (well below action levels) but no plutonium.

### **5. What about the groundwater flow?**

A groundwater model is being developed to determine the path that contaminants would take if there were a release. The regional groundwater flow direction is northwest to Lake Ontario. Available regional information indicates that no one uses well water, due to low yield and high natural mineralization. If you have any information about residents using well water, please contact us at 1-800-833-6390.

### **6. When you characterized the palletized waste from Building 401, what did you find?**

The palletized waste included material that was generated when the USDOE cleaned up Building 401. Old lockers, up to several contaminated beams, Tyvek suits and gloves were removed.

About 99% of the waste is construction debris with very little or no radioactive contamination.

The radiological waste was segregated, and radiologically contaminated material was sent for disposal at an appropriately licensed site in Utah.

### **7. Was the Building 403 demolition debris disposed of off-site or on-site?**

Clean debris went to Erie, Pennsylvania, and debris that had any radioactivity above background will go to Envirocare in Utah.

### **8. Do you have reports from Bechtel National, prime contractor to the USDOE?**

These reports are easily accessible in the Administrative Record File (located at the Lewiston Public Library, 305 South Eighth Street, Lewiston, NY; Youngstown Free Library, 240 Lockport St., Youngstown, NY; and the Buffalo District office of the U.S. Army Corps of Engineers at 1776 Niagara St., Buffalo, NY).

## **Rochester Burial Area**

### **1. There are rumors that there are contaminated animal carcasses buried in the Rochester Burial Area (on Vicinity Property G) from former radiological testing at the University of Rochester.**

We performed geophysical studies on this property to detect whether there are any buried

materials there, and trenched around all anomalies. There are no buried animals in these areas. The anomalies were soil fill and historic lab debris that had no radioactivity associated with them.

**2. I've also heard rumors about a train being buried there.**

We have done metal scans as part of our investigation. We have not picked up anything that sizeable and do not believe that a train is buried at the site.

## Waste Containment Structure

**1. How is the waste containment structure maintained to prevent radon emissions?**

The waste containment cell is regularly mowed and irrigated to ensure no cracking of the clay cap occurs. Also, as part of the annual surveillance program, the radon emissions from the cap are measured and have remained below background.

**2. Will the geophysical study of the cap help determine the remaining lifetime of it?**

Yes, it will help determine both the lifetime of the cap and the base of the waste containment structure. It will also help determine the impact of potential threats to the cap.

**3. Will the geophysical means of investigation indicate to you the status of the cell that contains the radioactive residues?**

Yes. To determine if the cell would be susceptible to an earthquake, seismic surveys were performed. The investigation found no seismic faults in the area. It also told us that there was no pooled water underneath, which tells us that the landfill clay cap is working as designed.

**4. What was the determination of the cap life currently?**

The U.S. Department of Energy had actually said 25-50 years – the 25-year lifespan concludes in 2011. We inspect the cap and monitor its condition each day, ensuring that no cracks or other breaches have occurred in the three-foot thick clay, and that the grass cover is well maintained and hydrated.

**5. When constructing the original cap, the USDOE predicted cell life was up to fifty years. USDOE predicted that by adding four more feet of clay and gravel on top that they could extend it actually to 200 to 1,000 years. Did the USDOE add to the cell?**

The answer is no. Three feet of clay still exists, and more material was added onto the cap in 1991. The Department of Energy cut into the top foot of compacted clay, placed the material on top, and then placed more compacted clay on top of that. The DOE was initially considering a permanent cap, which included stone coverage atop the landfill cap. However, due to the objections of the USEPA, DOE agreed not to make the cap permanent until all options were considered. At this time, the Corps is evaluating all options for long-term management in the Feasibility Study, including the possibility of leaving the materials in place with a long-term cap, extracting the materials, then treating and disposing of them, and/or extracting materials and removing them for disposal at a properly licensed facility. The data collected from the Remedial Investigation will be used to properly evaluate the options during the Feasibility Study. A proposed, preferred alternative will, of course, take into consideration the protection of human health and the environment.

**6. Is there a build-up of radon gas within the waste containment structure at the NFSS? Is the radon gas being released either intentionally through vents or through cap fissures?**

Radon is slowly generated and begins to move through the 5-½ feet of soil covering the buried material. Radon has a half-life of 3.62 days. By the time it moves through all the soil to the surface, almost all of it is no longer radon – it is harmless.

**7. I would like a health study to be conducted.**

This is a good idea, but the Corps does not do health studies. We have no health personnel because we are not authorized by Congress to do health work. People with health concerns should contact the New York State Health Department at (518) 402-7550 or the Niagara County Health Department at (716) 439-7595. Additionally, you may call the U.S. Department of Labor's Energy Employees Occupational Illness Compensation Program at 1-866-888-3322. These contacts can provide information on the health studies that have been performed.